UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105

Via Email and Certified Mail No.: 7014 1820 0000 4722 5089
Return Receipt Requested

In Reply Refer to:
Apache Nitrogen Products, Inc.
1436 South Apache Powder Road
St. David, Arizona 85630

Jeremy Barrett, General Manager and President
Apache Nitrogen Products, Inc.
1436 South Apache Powder Road
St. David, Arizona 85630

RE: Notice of Inspection Findings and Request for Information Pursuant to Clean Air Act Section 114 for Apache Nitrogen Products, Inc.

Dear Mr. Barrett:

On May 21, 2015, representatives from the U.S. Environmental Protection Agency ("EPA") Region IX conducted an inspection of the Apache Nitrogen Products, Inc. ("ANPI" or "Company") facility located at 1436 South Apache Powder Road, St. David, Arizona ("Facility") to determine the Company's compliance with the Emergency Planning and Community Right-to-Know Act ("EPCRA") Sections 304-312, the Comprehensive Environmental Response, Compensation and Liability Act ("CERCLA") Section 103, the Risk Management Program ("RMP") promulgated under Section 112(r)(7) of the Clean Air Act ("CAA"), and the General Duty Clause under Section 112(r)(1) of the CAA.

A summary of the inspection findings is provided herein for your information and response. These findings describe conditions observed at the Facility at the time of the inspection and identify potential areas of noncompliance with CAA RMP regulations as set forth in 40 C.F.R. Part 68 and the General Duty Clause under Section 112(r)(l) of the CAA. Any omissions in the report shall not be construed as a determination of compliance with those portions of 40 C.F.R. Part 68 or any other applicable regulations. The findings also identify potential areas of noncompliance with requirements set forth in EPCRA Sections 304-312 and CERCLA Section 103.

With this letter and its enclosure ("Findings and Information Request"), EPA seeks additional information and documents concerning the Company's compliance with Section 112(r) of the CAA, 42 U.S.C. § 7412(r) and the regulations thereunder at 40 C.F.R. Part 68. This

Information Request is authorized pursuant to Section 114 of the CAA, 42 U.S.C. § 7414. Your responses to this letter must be made by a letter signed by a person or persons duly authorized to represent the Company. Please send your responses in an electronic format and via certified mail, return receipt requested, so that they are *received by* April 1, 2016. Address your submittal to:

Jeremy Deyoe
U.S. Environmental Protection Agency, Region IX
75 Hawthorne St. (SFD-9-3)
San Francisco, CA 94105

Please note that, pursuant to regulations located at 40 C.F.R. Part 2, Subpart B, you are entitled to assert a business confidentiality claim covering any part of the submitted information as defined in 40 C.F.R. § 2.201(c). Asserting a business confidentiality claim does not relieve you from the obligation to fully respond to this letter. Failure to assert such a claim makes the submitted information subject to public disclosure upon request and without further notice to you, pursuant to the Freedom of Information Act, 5 U.S.C. § 552. Information subject to a business confidentiality claim may be available to the public only to the extent set forth in the above-cited regulation. EPA has the authority to use the information requested herein in an administrative, civil, or criminal action. In addition, EPA has not waived any rights to take enforcement action for past or future violations.

The Company's compliance with this Information Request is mandatory. Failure to respond fully and truthfully may result in an enforcement action being taken in accordance with Section 113 of the CAA, 42 U.S.C. § 7413. This may include civil and administrative penalties of up to $37,500 per day of noncompliance. In addition, the submission of knowingly false or misleading statements may be punished by a fine pursuant to Title 18 of the U.S. Code, or by imprisonment for not more than two years, or both.

If you have any questions regarding the Information Request, please contact Jeremy Deyoe of my staff at (415) 972-3081 or Deyoe.Jeremy@epa.gov, or have your counsel contact Madeline Gallo, Assistant Regional Counsel, at (415) 972-3539 or Gallo.Madeline@epa.gov. We thank you in advance for your cooperation.

Sincerely,

Enrique Manzanilla, Director
Superfund Division

Enclosures:
Cc (via email):
J. Deyoe, EPA Region IX
M. Gallo, EPA Region IX
Norman Strum, Cochise County

Findings and Information Request

EPCRA and CERCLA Reporting

1. EPCRA §§ 304(a) and 304(b)(1), 42 U.S.C. §§ 11004(a) and 11004(b)(1):

   The Company failed to immediately notify the Local Emergency Planning Commission ("LEPC"), designated as the Cochise County Office of Emergency Services, and the Arizona Emergency Response Commission of the June 10, 2014, release of anhydrous ammonia. The release of anhydrous ammonia occurred on June 10, 2014, at 10:08 am, and the Company did not provide notice of the release to the Cochise County Emergency Services until June 10, 2014, at 11:39 am, and to the Arizona Emergency Response Commission until June 10, 2014, at 11:40 am.

2. EPCRA § 304(c), 42 U.S.C. § 11004(c):

   The Company failed to provide written follow up emergency notices to the LEPC following the June 10, 2014 ammonia release and July 31, 2014 nitric acid spill.

3. CERCLA § 103(a), 42 U.S.C. § 9603(a):

   The Company failed to immediately notify the National Response Center ("NRC") after the June 10, 2014, July 31, 2014, and August 3, 2015 releases.
   a) As documented in NRC report #1085441, the Company notified the NRC of the anhydrous ammonia release that occurred at 10:15 am on June 10, 2014, at 11:28 am on June 10, 2014.
   b) The Company notified the NRC of the nitric acid spill that occurred at 1:10 pm on July 31, 2014, at 5:01 pm on July 31, 2014.
   c) The Company notified the NRC of the anhydrous ammonia release that occurred at 12:46 pm on August 3, 2015, at 7:05 pm on August 3, 2015.

Chemical Accident Prevention Provisions, 40 C.F.R. Part 68, Subpart A – General

4. Management – 40 C.F.R. § 68.15(a) and (c):

   The Company failed to provide documentation of a management system that included lines of authority for the implementation of each element of the RMP. The Company has indicated that Sherrie Wofford, PSM Program Assistant, is the sign off official for all of the reviewed operating procedures, Dwight Powell is responsible for implementing the mechanical integrity program, and Craig Boudle has overall responsibility for implementing the RMP. It is unclear, however, what the lines of authority are among these individuals and others who may be responsible for implementation of RMP elements. It is also unclear how each RMP element will be

implemented in the absence of the individual primarily responsible.

Chemical Accident Prevention Provisions, 40 C.F.R. Part 68, Subpart B – Hazard Assessment

5. Worst Case Release Scenario Analysis –40 C.F.R. § 68.25(a)(2)(iii):

The Company informed EPA's inspectors that incoming ammonia railcars are regularly staged unconnected to a mode of power, sometimes for several days, on spur lines at various locations at the Facility prior to being offloaded. The Company never conducted a worst-case release scenario analysis for the staged ammonia. The Company confirmed this deficiency during the inspection.

6. Alternative Release Scenario Analysis – 40 C.F.R. § 68.28(a):

The Company informed EPA's inspectors that incoming ammonia railcars are regularly staged unconnected to a mode of power, sometimes for several days, on spur lines at various locations at the Facility prior to being offloaded. The Company did not conduct alternative release scenarios for the different staging areas of railcars. The Company confirmed that these railcars were not addressed in the hazard assessment.

7. Alternative Release Scenario Analysis – 40 C.F.R. § 68.28(e)(2):

The Company did not evaluate alternative release scenarios that were identified in Process Hazard Analysis ("PHA") findings. For example, vehicular impact was identified in the "PHA 105" excel spreadsheet findings as a potential scenario for loss of containment. The spreadsheet contained no documented follow up to address this finding. Therefore, vehicular impact should have been evaluated as an alternative release scenario in the RMP, but it was not.

8. Documentation – 40 C.F.R. § 68.39(a):

The RMP Update conducted by ABS Consulting on the Company's behalf, dated April 2, 2013, does not contain all required information concerning assumptions, parameters, and rationale for the worst case release scenarios. The report concludes that "[d]iscussions with ANPI personnel confirmed that this [worst-case release] scenario is still valid," but lacks any supporting documentation to demonstrate that a revalidation of the assumptions, parameters and rationale used to determine the original worst case scenario was actually done.

9. Documentation – 40 C.F.R. § 68.39(b):

The RMP Update report by ABS Consulting on behalf of the Company, dated April 2, 2013, does not contain all required information concerning descriptions of scenarios identified and evaluated, assumptions, and parameters used for the reported alternative release scenario. The report concludes that "[d]iscussions with ANPI personnel verified that the [Alternative Release Scenario] presented in the 2008 RMPlan was still a credible

scenario for the updated RMPlan," but lacks any supporting documentation that a revalidation of the scenarios, assumptions, parameters, and rationale for selecting the alternatives used for selecting the 2008 RMPlan scenario was actually done.

10. Five-year Accident History – 40 C.F.R. § 68.42(a) and 40 C.F.R. § 68.195(a):

The Company had a 26-ton release of anhydrous ammonia on June 10, 2014, that resulted in on-site injuries of ANPI employees. At the time of the inspection, May 21, 2015, ANPI's RMP had not been updated to include the new five-year accident history information.

Chemical Accident Prevention Provisions Subpart D – Program 3 Prevention Program

11. Process Safety Information – 40 C.F.R. §§ 68.65(b)(1)-(7):

The Company's Process Safety Information ("PSI") documentation provided to EPA does not include Safety Data Sheets for the various forms of ammonium nitrate that are present in the process or being stored on site.

12. Process Safety Information – 40 C.F.R. § 68.65(c)(1)(i):

The Company's PSI documentation pertaining to the technology of the process was incomplete at the time of inspection because it did not contain a block or simplified process flow diagram.

13. Process Safety Information – 40 C.F.R. § 68.65(d)(1)(i), (ii), (iv), (v), (vii) and (viii):

The Company's PSI documentation pertaining to the equipment in the process was incomplete because:

a) it did not contain information pertaining to materials of construction for equipment in the process;
b) the P&ID legend does not contain all symbols that are used on the P&IDs. For example, pressure relief devices in the process are identified as pressure safety valves ("PSVs") on the Mechanical Integrity ("MI") relief valve checklist and on the ammonia complete drawings legend, P&ID 105-10-0000A "standard PFD and P&ID symbols". On P&ID 105-10-0005, "NH3 Sphere and Separation", pressure relief devices are identified as either a "PSD," for example, PSD 4058C and 4058D, or a "PSV", for example, PSV 7303A and 7303B. Additionally, "SRV" is not defined on the legend, P&ID 105-10-0000A, but is used throughout the ammonia complete drawings P&IDs;
c) there are some railcar unloading valves on P&ID 105-10-0002 that do not match the *ammonia unloading procedure for apache, 02 & 04 to tank 94*, AMM-0090. The operating procedure includes the following inaccurate valve labeling and instructions:

Open valves NH3 LIQ-4593 & NH3 VAP-5052 for 04 spot

OR
Open valves NH3 LIQ-4590 & NH3 VAP-5047 for 02 spot

On the P&ID, railcar valves NH3 LIQ-4590 & NH3 VAP-5047 are located at 04 spot, not 02 spot, and railcar valves NH3 LIQ-4593 & NH3 VAP-5052 are located at 02 spot, not 04 spot;

d) the operating procedure did not contain information on electrical classification(s) pertaining to equipment in the process;
e) the operating procedure did not contain information on the design and design basis for relief systems in the process; and
f) the operating procedure did not contain information pertaining to safety systems in the process such as interlocks, detection, or suppression systems.

14. Process Safety Information – 40 C.F.R. § 68.65(d)(2):

The Company has failed to ensure that equipment complies with recognized and generally accepted good engineering practices as follows:

a) The Company's process hazard analysis ("PHA") "preliminary recommendations" document suggested that ANPI:

Consider reissuing recommendation PHA01105-00-08, from a previous PHA, to consider providing multi-turn valves (i.e., instead of quarter-turn valves, in accordance with ANSI K61.1, item 5.5.12) in liquid ammonia service to help prevent liquid hammer due to operating a valve too fast. Also, ensure that valves in ammonia service meet the material specification requirements of ANSI K61.1, item 5.6.6.

The Company did not update and document valves pursuant to this recommendation.

b) P&ID 105-10-0002 shows a rupture disc after the compressor without any additional safety devices in the piping after it. If a rupture disc ruptured, then an uncontrolled release would occur. There is also no documentation of rupture discs in any other part of the Company's RMP.
c) The Company did not label all piping in the railcar unloading area.

15. Process Hazard Analysis – 40 C.F.R. § 68.67(a):

The Company defined its process in its RMP review and update as follows:

There is one manufacturing process at the ANPI facility consisting of six interconnected production units: (1) Ammonia Unloading and Storage Area, (2) Nitric Acid Plant AOP3, (3) Nitric Acid Plant AOP4, (4) Liquid Ammonium Nitrate (LAN) Plant, (5) Prilled Ammonium Nitrate Plant, and (6) Liquid Fertilizer Plant.

The PHA does not include all areas of the single covered process, such as AOP-3, AOP-4, and the Neutralizer. The Company also failed to perform a PHA on any of the rail sidings around the facility where anhydrous ammonia railcars are stored disconnected from their motive power.

16. Process Hazard Analysis – 40 C.F.R. § 68.67(f) and (g):

The Company was unable to provide documentation of its original PHA (required by June 21, 1999) and any subsequent PHAs that are required to be done every five years (at a minimum, June 21, 2004, 2009, and 2014). The only PHA for which documentation was provided was a 2011 PHA evaluation, for which the final reports were issued in 2014. The Company has not updated and revalidated its PHA as required, nor has it maintained all necessary PHAs and documentation of the resolution of recommendations for the life of the process.

17. Process Hazard Analysis – 40 C.F.R. § 68.67(e):

The Company did not establish a system to promptly address the PHA findings and recommendations or assure that the recommendations are resolved in a timely manner and documented.

a) In the Company's *105 PHA.xlsx* document, which includes PHA findings, recommendations, and follow up status, recommendation 01 Rec. 37 states that the Company should:

> *Consider removing ammonia day tanks (37-40) from service and installing new tanks for this service. PHA team members stated that these tanks are very old and believe that they are very near their serviceable life. The team also stated that the tanks are very tightly spaced (i.e., with respect to ANSI K61.1, item 6.4.6, requirements); do not have appropriate indication of the design criteria as required by ANSI K61.1, section 5.4; and are not painted appropriately in accordance with K61.1, item 5.12.*

The recommendation is identified as closed as of 1/9/2013, but the response does not address all findings including the painting of the tanks and addressing the spacing issued identified by the PHA team. The Company's response to the recommendation states only:

> *Recommendation accepted. Dwight Powell - Two being inspected to verify good for service, Other two have been taken out of ammonia service.*

b) There is no follow up documentation for the PHA finding to remove obsolete piping located in the ammonia unloading, storage, and distribution plant, which is documented in *Preliminary Recommendations 7.11.12.docx.*

18. Operating Procedures – 40 C.F.R. § 68.69(a)(1):

Operating procedure AMM-0010 lacks clear instructions and does not discuss the unloading hose connection configuration. Liquid ammonia was being offloaded using a dual liquid hose procedure where, according to ANPI employees, a single hose was the designed offloading method. The operating procedure does not discuss single versus dual hose operation.

19. Operating Procedures – 40 C.F.R. § 68.69(a)(3)(iii):

    Operating Procedure AMM-0010 does not include control measures to be taken if physical contact with ammonia or airborne exposure to ammonia occurs.

20. Operating Procedures – 40 C.F.R. § 68.69(c):

    The Company has not certified that its operating procedures were current and accurate. For example:

    a) AMM-0010 was last updated July 23, 2013, and the operating procedure is not signed and certified.
    b) AMM-0121 was last updated June 19, 2013, and is not signed and certified.
    c) LAN-0015 was last updated May 11, 2012, but is not signed and certified.
    d) There are no annual certifications for AMM-0010 for 2014, AMM-0121 for 2014, or LAN-0015 for 2013 or 2014.
    e) Operating procedure AMM-0121 does not match P&ID 105-10-0002, as described in Paragraph 13(c) above.

21. Mechanical Integrity – 40 C.F.R. § 68.73(d)(1):

    The Company failed to perform inspections and tests on all process equipment in accordance with the Company's established MI program, Intertek Abtech's Risk Based Inspection (RBI) analysis, and applicable codes and standards, for example:

    a) Some external inspection dates on the MI spreadsheet were over a year old, despite ANPI's default inspection frequency of one year for external inspections and two years for internal inspections. Equipment numbers 105E0484, 105E1732, and 105K2007B are examples, with "next external inspection" identified as 12/11/2014, 12/11/2014, and 11/21/2011, respectively.
    b) Pressure relief valves are not being visually examined at least annually following ANSI K61.1.
    c) Flexible hoses are not being pressure tested annually as identified in the MI program manual.

22. Mechanical Integrity – 40 C.F.R. § 68.73(d)(3):

    The Company failed to follow established standards in setting the frequency of inspections of relief valves. The relief valves have been given different inspection frequencies through risk rankings, some of which are 10 years between inspections,

which is not in accordance with ANSI standard K61.1. This deficiency appears to have led to relief valves on the relief valve checklist that are beyond the standard 5-year replacement established in ANSI K61.1.

23. Mechanical Integrity - 40 C.F.R. § 68.73(e):

There were multiple pieces of equipment that had identified deficiencies or are outside of acceptable operating limits and were not replaced in a timely manner including:

a) Dwight Powell identified blistering and corrosion on his 8/8/14 external pipe inspection report and there was no documented resolution. These conditions were observed by EPA during the facility inspection on 5/21/2015.
b) There was a leak in a vessel in the LAN unit located outside of the AOP-3 and Neutralizer control room, causing an accumulation of solid ammonium nitrate on the side of the vessel. The accumulation was approximately 30 feet in the air and there were large pieces of ammonium nitrate that had fallen on the process piping below and onto the ground. The area below the leak was taped off with caution tape. ANPI employees were aware of this leak and the unit was in operation at the time of the inspection.

24. Management of Change – 40 C.F.R. § 68.75(a):

The Company did not have documentation of a Management of Change ("MOC") for the TK-39 and TK-40 converted from anhydrous ammonia service to plant air service, which was identified in PSM Audit 2011.xlsx, Item 1.6.

25. Management of Change – 40 C.F.R. § 68.75(d):

The Company failed to update its PSI following an MOC for the following PSI:

a) The P&IDs for AOP-3, area 110, are all dated 2012, yet MOC documentation dated June 19, 2013, and related work order RT34333 identify that a new drain hose was to be added to the NH3 evaporator. The hose is not identified on the P&ID.
b) The P&IDs for the prill plant are dated either 2012 or 2013, but MOC documentation dated December 8, 2014, and work order RT41139 identify installation of a temperature gauge on a NH3 injector.

26. Compliance Audits – 40 C.F.R. § 68.79(a):

The Company failed to certify that it has evaluated compliance with 40 C.F.R. Part 68. The 2014 compliance audit includes a certification of compliance with a signature blank, but there is no signature.

27. Compliance Audits – 40 C.F.R. § 68.79(d):

The Company did not promptly determine and document an appropriate response for each compliance audit finding and document that deficiencies have been corrected. The 2011 compliance audit document *PSM Audit 2011.xlsx* includes compliance audit findings and recommendations with no documented follow up. Also, the Company's 2011 compliance audit findings and recommendation were in multiple documents and locations, each with different recommendations. One recommendation was "Ensure that all findings from the 2011 compliance audit have been entered into the [Unified Action Management System], and that the resolution and status are documented." There were ten compliance findings and recommendations associated with the 2011 compliance audit, but only three recommendations were found in the UAM (PSI-1-R, PSI-2-R, and APP-1-R).

28. Incident Investigation – 40 C.F.R. § 68.81(b) and § 68.81(d)(2):

    There is no documentation for the June 10, 2014 release identifying the start time of the incident investigation.

29. Incident Investigation – 40 C.F.R. § 68.81(a):

    The Company did not conduct an incident investigation for the July 31, 2014, nitric acid spill or the August 3, 2015, anhydrous ammonia release.

30. Incident Investigation – 40 C.F.R. § 68.81(e):

    The Company has not established a system to promptly address and resolve incident report findings. The Company's ammonia excess flow valve failure technical department memo includes the recommendation that "the parallel offloading practice be ceased and only a single offloading point used to safeguard against future hose and sight glass integrity issues." There is no documented follow up for this recommendation. The memo also states that "Apache will install either a flow meter or Magnetic level indicator" to replace sight glasses. As of May 21, 2015, the Company was still using sight glasses and there was no documentation of why this recommendation was not implemented.

<u>Chemical Accident Prevention Provisions Subpart E – Emergency Response</u>

31. Emergency response program – 40 C.F.R. § 68.95(a)(1):

    a) The Company's emergency response program fails to provide sufficient detail concerning notification of the public and local emergency response agencies about accidental releases. The Emergency Response Plan's ("ERP") procedure to notify the local emergency response agencies and the community includes in Section 1:

        When there is an atmospheric release, the perimeter of the area should be monitored to determine if the release may migrate off-site. When a reading of 50 ppm or greater of ammonia is

detected at the plant boundaries, then level three should be considered.

Level three, which is a minimum of 50 ppm at the fence line, is the only time the ERP identifies the potential need to notify regulatory agencies and to evaluate the potential for offsite impacts. Following the ERP, if a release anhydrous ammonia was detected at the fence line at less than 50 ppm, then regulatory agencies would not be contacted and the community alarm would not be activated. Section 6 of the ERP also includes:

If the Incident Commander determines that chemical release, fire or explosion could threaten our neighbors, the emergency warning plan must be initiated.

The ERP does not detail a procedure for fence line monitoring. This procedure is not sufficient to determine when to make a report and activate the community alarm.

b) The ERP's fence line monitoring process requires sending an ANPI employee into a potential vapor cloud to get a concentration reading, because the only ammonia detectors at the facility are handheld monitors. This procedure could result in injuries to the employee.

32. Emergency response program – 40 C.F.R. § 68.95(a)(2):

The Company's ERP does not contain procedures for the operation of handheld ammonia meters used to determine fence line ammonia concentrations. The Company also has no records of inspection, testing, and maintenance for the handheld ammonia meters.

33. Emergency response program – 40 C.F.R. § 68.95(a)(3):

The ERP shall contain training for all employees in relevant procedures. The Company has failed to maintain any training documentation for the use of handheld ammonia monitors and fence line monitoring.

General Duty Clause, Clean Air Act § 112(r)(1)

Under the Clean Air Act,

> The owners and operators of stationary sources producing, processing, handling or storing [extremely hazardous] substances have a general duty in the same manner and to the same extent as [the general duty clause in the Occupational Safety and Health Act ("OSHA")] to identify hazards which may result from [accidental] releases using appropriate hazard assessment techniques, to design and maintain a safe facility taking such steps as are necessary

> to prevent releases, and to minimize the consequences of accidental releases which do occur.

42 U.S.C. § 7412(r)(1). The Company failed to maintain a safe facility, taking the steps necessary to prevent accidental releases of extremely hazardous substances, in the manners that follow.

34. Operating procedure AMM-0010 step 4.2 states that a bleeder valve should be opened to visually check for the presence of ammonia in the line in order to determine if the railcar being unloaded is empty. Opening a valve with ammonia flowing through the piping is not a safe practice and could lead to a potential large release if the valve fails during operation or if the person opening the valve is injured.

35. There is a diesel tank with no impact protection adjacent to the prill barn. A driving lane is the only separation between the diesel tank and the prill barn. The location, slope, and lack of impact protection for the tank creates a potential hazard which could result in a mixing of the diesel and the prill.

36. There is no documented maintenance program for the loader used in the prill barn. A proper maintenance program should include inspections in order to prevent inadvertent mixing of lubrication oil or fuel oil with the prill.